GenCore version 5.1.3

OM nucleic - nucleic search, using sw model

Run on: February 16, 2003, 16:42:40 ; Search time 2267.72 Seconds
(without alignments)
15566.316 Million cell updates/sec

Title: US-09-497-967-5
Perfect score: 1404
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Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 24791104 seqs, 12571243825 residues

Total number of hits satisfying chosen parameters: 49582208

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
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Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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4		782.6	55.7	1404	18	US-09-497-967-3	Sequence 3, Appli
5		782.6	55.7	1404	18	US-09-498-612-8	Sequence 8, Appli
6		782.6	55.7	1410	18	US-09-497-967-44	Sequence 44, Appl
7		138	9.8	138	18	US-09-497-967-74	Sequence 74, Appl
8	c	123	8.8	123	18	US-09-497-967-75	Sequence 75, Appl
9		105	7.5	117	18	US-09-497-967-70	Sequence 70, Appl
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13		99	7.1	99	18	US-09-497-967-76	Sequence 76, Appl
14	c	95	6.8	95	18	US-09-497-967-73	Sequence 73, Appl
15	c	95	6.8	95	18	US-09-497-967-77	Sequence 77, Appl
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17		94	6.7	94	18	US-09-497-967-78	Sequence 78, Appl
18		94	6.7	94	18	US-09-497-967-84	Sequence 84, Appl
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21		92	6.6	92	18	US-09-497-967-86	Sequence 86, Appl

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ALIGNMENTS

RESULT 1
US-09-497-967-5
; Sequence 5, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; CURRENT FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 5
; LENGTH: 1404
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: 55kD i-antigen coding region
US-09-497-967-5

Query Match 100.0%; Score 1404; DB 18; Length 1404;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1404; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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RESULT 2
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; Sequence 102, Application US/09497967
; GENERAL INFORMATION:
;  APPLICANT: Clark, Theodore G.
;  APPLICANT:  Dickerson, Jr., Harry W.
;  APPLICANT:  Lin, Tian-Long
;  TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
;  TITLE OF INVENTION:  ICHTHYOPHTHIRIUS
;  FILE REFERENCE: 235.00170101
;  CURRENT APPLICATION NUMBER: US/09/497,967
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/131,121
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 102
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;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:  synthetic
;   OTHER INFORMATION: 55kD i-antigen coding region
US-09-497-967-102

  Query Match           100.0%;  Score 1404;  DB 18;  Length 1410;
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  Matches 1404;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Qy     361 AACTTCTACAACGAGAACGCTCCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGT 420
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     361 AACTTCTACAACGAGAACGCTCCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGT 420

Qy     421 CCTGTGAACCGCGTGGGAGGAGCTCTGACCGCTGGAAACGCTGCTACCATCGTGGCTCAG 480
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     421 CCTGTGAACCGCGTGGGAGGAGCTCTGACCGCTGGAAACGCTGCTACCATCGTGGCTCAG 480

Qy     481 TGTAACGTGGCTTGTCCTACCGGAACCGCTCTGGACGACGGAGTGACCACCGACTACGTG 540
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     481 TGTAACGTGGCTTGTCCTACCGGAACCGCTCTGGACGACGGAGTGACCACCGACTACGTG 540

Qy     541 CGCTCTTTCACCGAGTGTGTGAAGTGTCGCCTGAACTTCTACTACAACGGAAACAACGGA 600
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     541 CGCTCTTTCACCGAGTGTGTGAAGTGTCGCCTGAACTTCTACTACAACGGAAACAACGGA 600

Qy     601 AACACCCCTTTCAACCCTGGAAAGTCTCAGTGTACCCCTTGTCCTGCTATCAAGCCTGCT 660
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     601 AACACCCCTTTCAACCCTGGAAAGTCTCAGTGTACCCCTTGTCCTGCTATCAAGCCTGCT 660

Qy     661 AACGTGGCTCAGGCTACCCTGGGAAACGACGCTACCATCACCGCTCAGTGTAACGTGGCT 720
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     661 AACGTGGCTCAGGCTACCCTGGGAAACGACGCTACCATCACCGCTCAGTGTAACGTGGCT 720

Qy     721 TGTCCTGACGGAACCATCTCTGCTGCTGGAGTGAACAACTGGGTGGCTCAGAACACCGAG 780
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     721 TGTCCTGACGGAACCATCTCTGCTGCTGGAGTGAACAACTGGGTGGCTCAGAACACCGAG 780

Qy     781 TGTACCAACTGTGCTCCTAACTTCTACAACAACAACGCTCCTAACTTCAACCCTGGAAAC 840
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     781 TGTACCAACTGTGCTCCTAACTTCTACAACAACAACGCTCCTAACTTCAACCCTGGAAAC 840

Qy     841 TCTACCTGTCTGCCTTGTCCTGCTAACAAGGACTACGGAGCTGAGGCTACCGCTGGAGGA 900
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     841 TCTACCTGTCTGCCTTGTCCTGCTAACAAGGACTACGGAGCTGAGGCTACCGCTGGAGGA 900

Qy     901 GCTGCTACCCTGGCTAAGCAGTGTAACATCGCTTGTCCTGACGGAACCGCTATCGCTTCT 960
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     901 GCTGCTACCCTGGCTAAGCAGTGTAACATCGCTTGTCCTGACGGAACCGCTATCGCTTCT 960

Qy     961 GGAGCTACCAACTACGTGATCCTGCAGACCGAGTGTCTGAACTGTGCTGCTAACTTCTAC 1020
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     961 GGAGCTACCAACTACGTGATCCTGCAGACCGAGTGTCTGAACTGTGCTGCTAACTTCTAC 1020

Qy    1021 TTCGACGGAAACAACTTCCAGGCTGGATCTTCTCGCTGTAAGGCTTGTCCTGCTAACAAG 1080
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1021 TTCGACGGAAACAACTTCCAGGCTGGATCTTCTCGCTGTAAGGCTTGTCCTGCTAACAAG 1080

Qy    1081 GTGCAGGGAGCTGTGGCTACCGCTGGAGGAACCGCTACCCTGATCGCTCAGTGTGCTCTG 1140
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1081 GTGCAGGGAGCTGTGGCTACCGCTGGAGGAACCGCTACCCTGATCGCTCAGTGTGCTCTG 1140

Qy    1141 GAGTGTCCTGCTGGAACCGTGCTGACCGACGGAACCACCTCTACCTACAAGCAGGCTGCT 1200
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1141 GAGTGTCCTGCTGGAACCGTGCTGACCGACGGAACCACCTCTACCTACAAGCAGGCTGCT 1200

Qy    1201 TCTGAGTGTGTGAAGTGTGCTGCTAACTTCTACACCACCAAGCAGACCGACTGGGTGGCT 1260
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1201 TCTGAGTGTGTGAAGTGTGCTGCTAACTTCTACACCACCAAGCAGACCGACTGGGTGGCT 1260

Qy    1261 GGAATCGACACCTGTACCTCTTGTAACAAGAAGCTGACCTCTGGAGCTGAGGCTAACCTG 1320
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1261 GGAATCGACACCTGTACCTCTTGTAACAAGAAGCTGACCTCTGGAGCTGAGGCTAACCTG 1320

Qy    1321 CCTGAGTCTGCTAAGAAGAACATCCAGTGTGACTTCGCTAACTTCCTGTCTATCTCTCTG 1380
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1321 CCTGAGTCTGCTAAGAAGAACATCCAGTGTGACTTCGCTAACTTCCTGTCTATCTCTCTG 1380

Qy    1381 CTGCTGATCTCTTACTACCTGCTG 1404
           |||||||||||||||||||||||||
Db    1381 CTGCTGATCTCTTACTACCTGCTG 1404
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RESULT 3
US-09-497-967-53
; Sequence 53, Application US/09497967
; GENERAL INFORMATION:
;  APPLICANT: Clark, Theodore G.
;  APPLICANT:  Dickerson, Jr., Harry W.
;  APPLICANT:  Lin, Tian-Long
;  TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
;  TITLE OF INVENTION:  ICHTHYOPHTHIRIUS
;  FILE REFERENCE: 235.00170101
;  CURRENT APPLICATION NUMBER: US/09/497,967
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/131,121
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 53
;   LENGTH: 1404
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:  synthetic G5
;   OTHER INFORMATION: proline mutant i-antigen
US-09-497-967-53

  Query Match             99.8%;  Score 1400.8;  DB 18;  Length 1404;
  Best Local Similarity   99.9%;  Pred. No. 0;
  Matches 1402;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 ATGAAGAACAACATCCTGGTGATCCTGATCATCTCTCTGTTCATCAACCAGATCAAGTCT 60
          ||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||
Db       1 ATGAAGAACAACATCCCGGTGATCCTGATCATCTCTCTGTTCATCAACCAGATCAAGTCT 60

Qy      61 GCTAACTGTCCTGTGGGAACCGAGACCAACACCGCTGGACAGGTGGACGACCTGGGAACC 120
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      61 GCTAACTGTCCTGTGGGAACCGAGACCAACACCGCTGGACAGGTGGACGACCTGGGAACC 120

Qy     121 CCTGCTAACTGTGTGAACTGTCAGAAGAACTTCTACTACAACAACGCTGCTGCTTTCGTG 180
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     121 CCTGCTAACTGTGTGAACTGTCAGAAGAACTTCTACTACAACAACGCTGCTGCTTTCGTG 180

Qy     181 CCTGGAGCTTCTACCTGTACCCCTTGTCCTCAGAAGAAGGACGCTGGAGCTCAGCCTAAC 240
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     181 CCTGGAGCTTCTACCTGTACCCCTTGTCCTCAGAAGAAGGACGCTGGAGCTCAGCCTAAC 240

Qy     241 CCTCCTGCTACCGCTAACCTGGTGACCCAGTGTAACGTGAAGTGTCCTGCTGGAACCGCT 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     241 CCTCCTGCTACCGCTAACCTGGTGACCCAGTGTAACGTGAAGTGTCCTGCTGGAACCGCT 300

Qy     301 ATCGCTGGAGGAGCTACCGACTACGCTGCTATCATCACCGAGTGTGTGAACTGTCGCATC 360
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     301 ATCGCTGGAGGAGCTACCGACTACGCTGCTATCATCACCGAGTGTGTGAACTGTCGCATC 360

Qy     361 AACTTCTACAACGAGAACGCTCCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGT 420
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     361 AACTTCTACAACGAGAACGCTCCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGT 420

Qy     421 CCTGTGAACCGCGTGGGAGGAGCTCTGACCGCTGGAAACGCTGCTACCATCGTGGCTCAG 480
           |||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db     421 CCTGTGAACCGTGTGGGAGGAGCTCTGACCGCTGGAAACGCTGCTACCATCGTGGCTCAG 480

Qy     481 TGTAACGTGGCTTGTCCTACCGGAACCGCTCTGGACGACGGAGTGACCACCGACTACGTG 540
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     481 TGTAACGTGGCTTGTCCTACCGGAACCGCTCTGGACGACGGAGTGACCACCGACTACGTG 540

Qy     541 CGCTCTTTCACCGAGTGTGTGAAGTGTCGCCTGAACTTCTACTACAACGGAAACAACGGA 600
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     541 CGCTCTTTCACCGAGTGTGTGAAGTGTCGCCTGAACTTCTACTACAACGGAAACAACGGA 600

Qy     601 AACACCCCTTTCAACCCTGGAAAGTCTCAGTGTACCCCTTGTCCTGCTATCAAGCCTGCT 660
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     601 AACACCCCTTTCAACCCTGGAAAGTCTCAGTGTACCCCTTGTCCTGCTATCAAGCCTGCT 660

Qy     661 AACGTGGCTCAGGCTACCCTGGGAAACGACGCTACCATCACCGCTCAGTGTAACGTGGCT 720
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     661 AACGTGGCTCAGGCTACCCTGGGAAACGACGCTACCATCACCGCTCAGTGTAACGTGGCT 720

Qy     721 TGTCCTGACGGAACCATCTCTGCTGCTGGAGTGAACAACTGGGTGGCTCAGAACACCGAG 780
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     721 TGTCCTGACGGAACCATCTCTGCTGCTGGAGTGAACAACTGGGTGGCTCAGAACACCGAG 780

Qy     781 TGTACCAACTGTGCTCCTAACTTCTACAACAACAACGCTCCTAACTTCAACCCTGGAAAC 840
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     781 TGTACCAACTGTGCTCCTAACTTCTACAACAACAACGCTCCTAACTTCAACCCTGGAAAC 840

Qy     841 TCTACCTGTCTGCCTTGTCCTGCTAACAAGGACTACGGAGCTGAGGCTACCGCTGGAGGA 900
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     841 TCTACCTGTCTGCCTTGTCCTGCTAACAAGGACTACGGAGCTGAGGCTACCGCTGGAGGA 900

Qy     901 GCTGCTACCCTGGCTAAGCAGTGTAACATCGCTTGTCCTGACGGAACCGCTATCGCTTCT 960
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     901 GCTGCTACCCTGGCTAAGCAGTGTAACATCGCTTGTCCTGACGGAACCGCTATCGCTTCT 960

Qy     961 GGAGCTACCAACTACGTGATCCTGCAGACCGAGTGTCTGAACTGTGCTGCTAACTTCTAC 1020
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     961 GGAGCTACCAACTACGTGATCCTGCAGACCGAGTGTCTGAACTGTGCTGCTAACTTCTAC 1020

Qy    1021 TTCGACGGAAACAACTTCCAGGCTGGATCTTCTCGCTGTAAGGCTTGTCCTGCTAACAAG 1080
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1021 TTCGACGGAAACAACTTCCAGGCTGGATCTTCTCGCTGTAAGGCTTGTCCTGCTAACAAG 1080

Qy    1081 GTGCAGGGAGCTGTGGCTACCGCTGGAGGAACCGCTACCCTGATCGCTCAGTGTGCTCTG 1140
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1081 GTGCAGGGAGCTGTGGCTACCGCTGGAGGAACCGCTACCCTGATCGCTCAGTGTGCTCTG 1140

Qy    1141 GAGTGTCCTGCTGGAACCGTGCTGACCGACGGAACCACCTCTACCTACAAGCAGGCTGCT 1200
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1141 GAGTGTCCTGCTGGAACCGTGCTGACCGACGGAACCACCTCTACCTACAAGCAGGCTGCT 1200

Qy    1201 TCTGAGTGTGTGAAGTGTGCTGCTAACTTCTACACCACCAAGCAGACCGACTGGGTGGCT 1260
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1201 TCTGAGTGTGTGAAGTGTGCTGCTAACTTCTACACCACCAAGCAGACCGACTGGGTGGCT 1260

Qy    1261 GGAATCGACACCTGTACCTCTTGTAACAAGAAGCTGACCTCTGGAGCTGAGGCTAACCTG 1320
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1261 GGAATCGACACCTGTACCTCTTGTAACAAGAAGCTGACCTCTGGAGCTGAGGCTAACCTG 1320

Qy    1321 CCTGAGTCTGCTAAGAAGAACATCCAGTGTGACTTCGCTAACTTCCTGTCTATCTCTCTG 1380
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1321 CCTGAGTCTGCTAAGAAGAACATCCAGTGTGACTTCGCTAACTTCCTGTCTATCTCTCTG 1380

Qy    1381 CTGCTGATCTCTTACTACCTGCTG 1404
           |||||||||||||||||||||||||
Db    1381 CTGCTGATCTCTTACTACCTGCTG 1404


RESULT 4
US-09-497-967-3
; Sequence 3, Application US/09497967
; GENERAL INFORMATION:
;  APPLICANT: Clark, Theodore G.
;  APPLICANT:  Dickerson, Jr., Harry W.
;  APPLICANT:  Lin, Tian-Long
;  TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
;  TITLE OF INVENTION:  ICHTHYOPHTHIRIUS
;  FILE REFERENCE: 235.00170101
;  CURRENT APPLICATION NUMBER: US/09/497,967
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/131,121
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;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 3
;   LENGTH: 1404
;   TYPE: DNA
;   ORGANISM: Ichthyophthirius multifiliis
US-09-497-967-3

  Query Match           55.7%;  Score 782.6;  DB 18;  Length 1404;
  Best Local Similarity  72.5%;  Pred. No. 9.6e-210;
  Matches 1013;  Conservative    0;  Mismatches  384;  Indels    0;  Gaps    0;

Qy       1 ATGAAGAACAACATCCTGGTGATCCTGATCATCTCTCTGTTCATCAACCAGATCAAGTCT 60
Db       1 ATGAAAAATAATATTTTAGTAATATTGATTATTTCATTATTTATCAATTAAATTAAATCT 60

Qy      61 GCTAACTGTCCTGTGGGAACCGAGACCAACACCGCTGGACAGGTGGACGACCTGGGAACC 120
Db      61 GCTAATTGTCCTGTTGGAACTGAAACTAACACAGCCGGATAAGTTGATGATCTAGGAACT 120

Qy     121 CCTGCTAACTGTGTGAACTGTCAGAAGAACTTCTACTACAACAACGCTGCTGCTTTCGTG 180
Db     121 CCTGCAAATTGTGTTAATTGTTAGAAAAACTTTTATTATAATAATGCTGCTGCTTTCGTT 180

Qy     181 CCTGGAGCTTCTACCTGTACCCCTTGTCCTCAGAAGAAGGACGCTGGAGCTCAGCCTAAC 240
Db     181 CCTGGTGCTAGTACGTGTACACCTTGTCCATAAAAAAAAGATGCTGGTGCTTAACCAAAT 240

Qy     241 CCTCCTGCTACCGCTAACCTGGTGACCCAGTGTAACGTGAAGTGTCCTGCTGGAACCGCT 300
Db     241 CCACCTGCTACTGCTAATTTAGTCACATAATGTAACGTTAAATGCCCTGCTGGTACCGCA 300

Qy     301 ATCGCTGGAGGAGCTACCGACTACGCTGCTATCATCACCGAGTGTGTGAACTGTCGCATC 360
Db     301 ATTGCAGGTGGAGCAACAGATTATGCAGCAATAATCACAGAATGTGTTAATTGTAGAATT 360

Qy     361 AACTTCTACAACGAGAACGCTCCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGT 420
Db     361 AATTTTTATAATGAAAATGCTCCAAATTTTAATGCAGGTGCTAGTACATGCACAGCTTGT 420

Qy     421 CCTGTGAACCGCGTGGGAGGAGCTCTGACCGCTGGAAACGCTGCTACCATCGTGGCTCAG 480
Db     421 CCGGTAAACAGAGTTGGTGGTGCATTGACTGCTGGTAATGCCGCTACCATAGTCGCATAA 480

Qy     481 TGTAACGTGGCTTGTCCTACCGGAACCGCTCTGGACGACGGAGTGACCACCGACTACGTG 540
Db     481 TGTAACGTCGCATGTCCTACTGGTACTGCACTTGATGATGGAGTAACTACTGATTATGTT 540

Qy     541 CGCTCTTTCACCGAGTGTGTGAAGTGTCGCCTGAACTTCTACTACAACGGAAACAACGGA 600
Db     541 AGATCATTCACAGAATGTGTTAAATGTAGACTTAACTTTTACTATAATGGTAATAATGGT 600

Qy     601 AACACCCCTTTCAACCCTGGAAAGTCTCAGTGTACCCCTTGTCCTGCTATCAAGCCTGCT 660
Db     601 AATACTCCTTTCAATCCAGGTAAAAGTTAATGCACACCTTGTCCGGCAATTAAACCTGCT 660

Qy     661 AACGTGGCTCAGGCTACCCTGGGAAACGACGCTACCATCACCGCTCAGTGTAACGTGGCT 720
Db     661 AATGTTGCTTAAGCTACTTTAGGTAATGATGCTACAATAACCGCATAATGTAACGTTGCA 720

Qy     721 TGTCCTGACGGAACCATCTCTGCTGCTGGAGTGAACAACTGGGTGGCTCAGAACACCGAG 780
Db     721 TGCCCTGATGGTACTATAAGTGCTGCTGGAGTAAATAATTGGGTAGCACAAAACACTGAA 780

Qy     781 TGTACCAACTGTGCTCCTAACTTCTACAACAACAACGCTCCTAACTTCAACCCTGGAAAC 840
Db     781 TGTACTAATTGTGCTCCTAACTTTTACAATAATAATGCTCCTAATTTCAATCCAGGTAAT 840

Qy     841 TCTACCTGTCTGCCTTGTCCTGCTAACAAGGACTACGGAGCTGAGGCTACCGCTGGAGGA 900
Db     841 AGTACATGCCTACCTTGCCCAGCAAATAAAGATTATGGTGCTGAAGCCACTGCAGGTGGT 900

Qy     901 GCTGCTACCCTGGCTAAGCAGTGTAACATCGCTTGTCCTGACGGAACCGCTATCGCTTCT 960
Db     901 GCCGCTACTTTAGCCAAATAATGTAATATTGCATGCCCTGATGGTACTGCAATTGCTAGT 960

Qy     961 GGAGCTACCAACTACGTGATCCTGCAGACCGAGTGTCTGAACTGTGCTGCTAACTTCTAC 1020
Db     961 GGAGCAACTAATTATGTAATATTATAAACAGAATGTCTAAATTGTGCTGCTAACTTTTAT 1020

Qy    1021 TTCGACGGAAACAACTTCCAGGCTGGATCTTCTCGCTGTAAGGCTTGTCCTGCTAACAAG 1080
Db    1021 TTTGATGGTAATAATTTCTAGGCAGGAAGTAGTAGATGCAAAGCATGTCCAGCAAATAAA 1080

Qy    1081 GTGCAGGGAGCTGTGGCTACCGCTGGAGGAACCGCTACCCTGATCGCTCAGTGTGCTCTG 1140
Db    1081 GTTTAAGGCGCTGTAGCAACTGCAGGTGGTACTGCTACTTTAATTGCATAATGTGCCCTT 1140

Qy    1141 GAGTGTCCTGCTGGAACCGTGCTGACCGACGGAACCACCTCTACCTACAAGCAGGCTGCT 1200
Db    1141 GAATGCCCTGCTGGTACTGTACTCACCGATGGAACAACATCTACTTATAAATAAGCAGCA 1200

Qy    1201 TCTGAGTGTGTGAAGTGTGCTGCTAACTTCTACACCACCAAGCAGACCGACTGGGTGGCT 1260
Db    1201 TCTGAATGTGTTAAATGTGCTGCCAACTTTTATACTACAAAATAAACTGATTGGGTAGCA 1260

Qy    1261 GGAATCGACACCTGTACCTCTTGTAACAAGAAGCTGACCTCTGGAGCTGAGGCTAACCTG 1320
Db    1261 GGTATTGATACATGTACTAGTTGTAATAAAAAATTAACTTCTGGCGCTGAAGCTAATTTA 1320

Qy    1321 CCTGAGTCTGCTAAGAAGAACATCCAGTGTGACTTCGCTAACTTCCTGTCTATCTCTCTG 1380
Db    1321 CCTGAATCTGCTAAAAAAAATATATAATGTGATTTCGCTAATTTTTTATCAATTTCCTTA 1380

Qy    1381 CTGCTGATCTCTTACTA 1397
Db    1381 TTATTGATTTCTTATTA 1397


RESULT 5
US-09-498-612-8
; Sequence 8, Application US/09498612
; GENERAL INFORMATION:
;  APPLICANT: GAERTIG, Jacek
;  APPLICANT:  DICKERSON Jr., Harry W.
;  APPLICANT:  CLARK, Theodore G.
;  APPLICANT:  THE UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC
;  TITLE OF INVENTION: RECOMBINANT EXPRESSION OF HETEROLOGOUS NUCLEIC ACIDS IN
;  TITLE OF INVENTION:  PROTOZOA
;  FILE REFERENCE: 235.00100101
;  CURRENT APPLICATION NUMBER: US/09/498,612
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  PRIOR APPLICATION NUMBER: 60/131,121
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: PCT/US00/02966
;  PRIOR FILING DATE: 2000-02-04
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 8
;   LENGTH: 1404
;   TYPE: DNA
;   ORGANISM: Ichthyophthirius multifiliis
US-09-498-612-8
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  Query Match             55.7%;  Score 782.6;  DB 18;  Length 1404;
  Best Local Similarity   72.5%;  Pred. No. 9.6e-210;
  Matches 1013;  Conservative    0;  Mismatches  384;  Indels    0;  Gaps    0;

Qy       1 ATGAAGAACAACATCCTGGTGATCCTGATCATCTCTCTGTTCATCAACCAGATCAAGTCT 60
Db       1 ATGAAAAATAATATTTTAGTAATATTGATTATTTCATTATTTATCAATTAAATTAAATCT 60

Qy      61 GCTAACTGTCCTGTGGGAACCGAGACCAACACCGCTGGACAGGTGGACGACCTGGGAACC 120
Db      61 GCTAATTGTCCTGTTGGAACTGAAACTAACACAGCCGGATAAGTTGATGATCTAGGAACT 120

Qy     121 CCTGCTAACTGTGTGAACTGTCAGAAGAACTTCTACTACAACAACGCTGCTGCTTTCGTG 180
Db     121 CCTGCAAATTGTGTTAATTGTTAGAAAAACTTTTATTATAATAATGCTGCTGCTTTCGTT 180

Qy     181 CCTGGAGCTTCTACCTGTACCCCTTGTCCTCAGAAGAAGGACGCTGGAGCTCAGCCTAAC 240
Db     181 CCTGGTGCTAGTACGTGTACACCTTGTCCATAAAAAAAAGATGCTGGTGCTTAACCAAAT 240

Qy     241 CCTCCTGCTACCGCTAACCTGGTGACCCAGTGTAACGTGAAGTGTCCTGCTGGAACCGCT 300
Db     241 CCACCTGCTACTGCTAATTTAGTCACATAATGTAACGTTAAATGCCCTGCTGGTACCGCA 300

Qy     301 ATCGCTGGAGGAGCTACCGACTACGCTGCTATCATCACCGAGTGTGTGAACTGTCGCATC 360
Db     301 ATTGCAGGTGGAGCAACAGATTATGCAGCAATAATCACAGAATGTGTTAATTGTAGAATT 360

Qy     361 AACTTCTACAACGAGAACGCTCCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGT 420
Db     361 AATTTTTATAATGAAAATGCTCCAAATTTTAATGCAGGTGCTAGTACATGCACAGCTTGT 420

Qy     421 CCTGTGAACCGCGTGGGAGGAGCTCTGACCGCTGGAAACGCTGCTACCATCGTGGCTCAG 480
Db     421 CCGGTAAACAGAGTTGGTGGTGCATTGACTGCTGGTAATGCCGCTACCATAGTCGCATAA 480

Qy     481 TGTAACGTGGCTTGTCCTACCGGAACCGCTCTGGACGACGGAGTGACCACCGACTACGTG 540
Db     481 TGTAACGTCGCATGTCCTACTGGTACTGCACTTGATGATGGAGTAACTACTGATTATGTT 540

Qy     541 CGCTCTTTCACCGAGTGTGTGAAGTGTCGCCTGAACTTCTACTACAACGGAAACAACGGA 600
Db     541 AGATCATTCACAGAATGTGTTAAATGTAGACTTAACTTTTACTATAATGGTAATAATGGT 600

Qy     601 AACACCCCTTTCAACCCTGGAAAGTCTCAGTGTACCCCTTGTCCTGCTATCAAGCCTGCT 660
Db     601 AATACTCCTTTCAATCCAGGTAAAAGTTAATGCACACCTTGTCCGGCAATTAAACCTGCT 660

Qy     661 AACGTGGCTCAGGCTACCCTGGGAAACGACGCTACCATCACCGCTCAGTGTAACGTGGCT 720
Db     661 AATGTTGCTTAAGCTACTTTAGGTAATGATGCTACAATAACCGCATAATGTAACGTTGCA 720

Qy     721 TGTCCTGACGGAACCATCTCTGCTGCTGGAGTGAACAACTGGGTGGCTCAGAACACCGAG 780
Db     721 TGCCCTGATGGTACTATAAGTGCTGCTGGAGTAAATAATTGGGTAGCACAAAACACTGAA 780

Qy     781 TGTACCAACTGTGCTCCTAACTTCTACAACAACAACGCTCCTAACTTCAACCCTGGAAAC 840
Db     781 TGTACTAATTGTGCTCCTAACTTTTACAATAATAATGCTCCTAATTTCAATCCAGGTAAT 840

Qy     841 TCTACCTGTCTGCCTTGTCCTGCTAACAAGGACTACGGAGCTGAGGCTACCGCTGGAGGA 900
Db     841 AGTACATGCCTACCTTGCCCAGCAAATAAAGATTATGGTGCTGAAGCCACTGCAGGTGGT 900

Qy     901 GCTGCTACCCTGGCTAAGCAGTGTAACATCGCTTGTCCTGACGGAACCGCTATCGCTTCT 960
Db     901 GCCGCTACTTTAGCCAAATAATGTAATATTGCATGCCCTGATGGTACTGCAATTGCTAGT 960

Qy     961 GGAGCTACCAACTACGTGATCCTGCAGACCGAGTGTCTGAACTGTGCTGCTAACTTCTAC 1020
Db     961 GGAGCAACTAATTATGTAATATTATAAACAGAATGTCTAAATTGTGCTGCTAACTTTTAT 1020

Qy    1021 TTCGACGGAAACAACTTCCAGGCTGGATCTTCTCGCTGTAAGGCTTGTCCTGCTAACAAG 1080
Db    1021 TTTGATGGTAATAATTTCTAGGCAGGAAGTAGTAGATGCAAAGCATGTCCAGCAAATAAA 1080

Qy    1081 GTGCAGGGAGCTGTGGCTACCGCTGGAGGAACCGCTACCCTGATCGCTCAGTGTGCTCTG 1140
Db    1081 GTTTAAGGCGCTGTAGCAACTGCAGGTGGTACTGCTACTTTAATTGCATAATGTGCCCTT 1140

Qy    1141 GAGTGTCCTGCTGGAACCGTGCTGACCGACGGAACCACCTCTACCTACAAGCAGGCTGCT 1200
Db    1141 GAATGCCCTGCTGGTACTGTACTCACCGATGGAACAACATCTACTTATAAATAAGCAGCA 1200

Qy    1201 TCTGAGTGTGTGAAGTGTGCTGCTAACTTCTACACCACCAAGCAGACCGACTGGGTGGCT 1260
Db    1201 TCTGAATGTGTTAAATGTGCTGCCAACTTTTATACTACAAAATAAACTGATTGGGTAGCA 1260

Qy    1261 GGAATCGACACCTGTACCTCTTGTAACAAGAAGCTGACCTCTGGAGCTGAGGCTAACCTG 1320
Db    1261 GGTATTGATACATGTACTAGTTGTAATAAAAAATTAACTTCTGGCGCTGAAGCTAATTTA 1320

Qy    1321 CCTGAGTCTGCTAAGAAGAACATCCAGTGTGACTTCGCTAACTTCCTGTCTATCTCTCTG 1380
Db    1321 CCTGAATCTGCTAAAAAAAATATATAATGTGATTTCGCTAATTTTTTATCAATTTCCTTA 1380

Qy    1381 CTGCTGATCTCTTACTA 1397
Db    1381 TTATTGATTTCTTATTA 1397
```

RESULT 6
US-09-497-967-44
; Sequence 44, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; CURRENT FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 44
; LENGTH: 1410
; TYPE: DNA
; ORGANISM: Ichthyophthirius multifiliis
US-09-497-967-44

```
  Query Match             55.7%;  Score 782.6;  DB 18;  Length 1410;
  Best Local Similarity   72.5%;  Pred. No. 9.6e-210;
  Matches 1013;  Conservative    0;  Mismatches  384;  Indels    0;  Gaps    0;

Qy       1 ATGAAGAACAACATCCTGGTGATCCTGATCATCTCTCTGTTCATCAACCAGATCAAGTCT 60
Db       1 ATGAAAAATAATATTTTAGTAATATTGATTATTTCATTATTTATCAATTAAATTAAATCT 60

Qy      61 GCTAACTGTCCTGTGGGAACCGAGACCAACACCGCTGGACAGGTGGACGACCTGGGAACC 120
Db      61 GCTAATTGTCCTGTTGGAACTGAAACTAACACAGCCGGATAAGTTGATGATCTAGGAACT 120

Qy     121 CCTGCTAACTGTGTGAACTGTCAGAAGAACTTCTACTACAACAACGCTGCTGCTTTCGTG 180
Db     121 CCTGCAAATTGTGTTAATTGTTAGAAAAACTTTTATTATAATAATGCTGCTGCTTTCGTT 180
```

```
Qy    181 CCTGGAGCTTCTACCTGTACCCCTTGTCCTCAGAAGAAGGACGCTGGAGCTCAGCCTAAC 240
          ||||| |||  ||| ||||| ||||||||  | || || || ||||| ||| | || ||
Db    181 CCTGGTGCTAGTACGTGTACACCTTGTCCATAAAAAAAAGATGCTGGTGCTTAACCAAAT 240

Qy    241 CCTCCTGCTACCGCTAACCTGGTGACCCAGTGTAACGTGAAGTGTCCTGCTGGAACCGCT 300
          || |||||||| |||||  | || ||  | |||||||| || || |||||||| |||||
Db    241 CCACCTGCTACTGCTAATTTAGTCACATAATGTAACGTTAAATGCCCTGCTGGTACCGCA 300

Qy    301 ATCGCTGGAGGAGCTACCGACTACGCTGCTATCATCACCGAGTGTGTGAACTGTCGCATC 360
          || || || ||||| || || || || || || ||||| || ||||| || ||| | ||
Db    301 ATTGCAGGTGGAGCAACAGATTATGCAGCAATAATCACAGAATGTGTTAATTGTAGAATT 360

Qy    361 AACTTCTACAACGAGAACGCTCCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGT 420
          || || || || || || ||||| || || || || || ||| ||| || || |||||||
Db    361 AATTTTTATAATGAAAATGCTCCAAATTTTAATGCAGGTGCTAGTACATGCACAGCTTGT 420

Qy    421 CCTGTGAACCGCGTGGGAGGAGCTCTGACCGCTGGAAACGCTGCTACCATCGTGGCTCAG 480
          || || ||| | || || || ||  |||| ||||| || || |||||||| || ||  |
Db    421 CCGGTAAACAGAGTTGGTGGTGCATTGACTGCTGGTAATGCCGCTACCATAGTCGCATAA 480

Qy    481 TGTAACGTGGCTTGTCCTACCGGAACCGCTCTGGACGACGGAGTGACCACCGACTACGTG 540
          |||||||| || |||||||| || || || || || || ||||| || || || || ||
Db    481 TGTAACGTCGCATGTCCTACTGGTACTGCACTTGATGATGGAGTAACTACTGATTATGTT 540

Qy    541 CGCTCTTTCACCGAGTGTGTGAAGTGTCGCCTGAACTTCTACTACAACGGAAACAACGGA 600
          | || ||||| || ||||| || ||| | || ||||| ||||| || || || || ||
Db    541 AGATCATTCACAGAATGTGTTAAATGTAGACTTAACTTTTACTATAATGGTAATAATGGT 600

Qy    601 AACACCCCTTTCAACCCTGGAAAGTCTCAGTGTACCCCTTGTCCTGCTATCAAGCCTGCT 660
          || || |||||||| || || ||   | | || || |||||||| || || || ||||||
Db    601 AATACTCCTTTCAATCCAGGTAAAAGTTAATGCACACCTTGTCCGGCAATTAAACCTGCT 660

Qy    661 AACGTGGCTCAGGCTACCCTGGGAAACGACGCTACCATCACCGCTCAGTGTAACGTGGCT 720
          || || ||| | |||||  | || || || ||||| || |||||  | ||||||||  ||
Db    661 AATGTTGCTTAAGCTACTTTAGGTAATGATGCTACAATAACCGCATAATGTAACGTTGCA 720

Qy    721 TGTCCTGACGGAACCATCTCTGCTGCTGGAGTGAACAACTGGGTGGCTCAGAACACCGAG 780
          || ||||| || || ||   ||||||||||||| || || ||||| || || ||||| ||
Db    721 TGCCCTGATGGTACTATAAGTGCTGCTGGAGTAAATAATTGGGTAGCACAAAACACTGAA 780

Qy    781 TGTACCAACTGTGCTCCTAACTTCTACAACAACAACGCTCCTAACTTCAACCCTGGAAAC 840
          ||||| || ||||||||||||||| ||||| || || |||||||| ||||| || || ||
Db    781 TGTACTAATTGTGCTCCTAACTTTTACAATAATAATGCTCCTAATTTCAATCCAGGTAAT 840

Qy    841 TCTACCTGTCTGCCTTGTCCTGCTAACAAGGACTACGGAGCTGAGGCTACCGCTGGAGGA 900
          |||| || || ||||| || || || || || || || ||||| || || || || || ||
Db    841 AGTACATGCCTACCTTGCCCAGCAAATAAAGATTATGGTGCTGAAGCCACTGCAGGTGGT 900

Qy    901 GCTGCTACCCTGGCTAAGCAGTGTAACATCGCTTGTCCTGACGGAACCGCTATCGCTTCT 960
          || |||||  | || ||  | ||||| || || || ||||| || || || || |||  |
Db    901 GCCGCTACTTTAGCCAAATAATGTAATATTGCATGCCCTGATGGTACTGCAATTGCTAGT 960

Qy    961 GGAGCTACCAACTACGTGATCCTGCAGACCGAGTGTCTGAACTGTGCTGCTAACTTCTAC 1020
          ||||| || || || || || ||  |  | || || ||||| || ||||||||||||| ||
Db    961 GGAGCAACTAATTATGTAATATTATAAACAGAATGTCTAAATTGTGCTGCTAACTTTTAT 1020

Qy   1021 TTCGACGGAAACAACTTCCAGGCTGGATCTTCTCGCTGTAAGGCTTGTCCTGCTAACAAG 1080
          || || || || || ||| |||| |||  |  | | || || || ||||| || || ||
Db   1021 TTTGATGGTAATAATTTCTAGGCAGGAAGTAGTAGATGCAAAGCATGTCCAGCAAATAAA 1080

Qy   1081 GTGCAGGGAGCTGTGGCTACCGCTGGAGGAACCGCTACCCTGATCGCTCAGTGTGCTCTG 1140
          ||  | || ||||| || || || || || || |||||  | || ||  | ||||| ||
Db   1081 GTTTAAGGCGCTGTAGCAACTGCAGGTGGTACTGCTACTTTAATTGCATAATGTGCCCTT 1140

Qy   1141 GAGTGTCCTGCTGGAACCGTGCTGACCGACGGAACCACCTCTACCTACAAGCAGGCTGCT 1200
          || || |||||||| || || || ||||| ||||| || ||||| || ||  | || ||
Db   1141 GAATGCCCTGCTGGTACTGTACTCACCGATGGAACAACATCTACTTATAAATAAGCAGCA 1200

Qy   1201 TCTGAGTGTGTGAAGTGTGCTGCTAACTTCTACACCACCAAGCAGACCGACTGGGTGGCT 1260
          ||||| ||||| || |||||||| ||||| || || || ||  | || || ||||| ||
Db   1201 TCTGAATGTGTTAAATGTGCTGCCAACTTTTATACTACAAAATAAACTGATTGGGTAGCA 1260

Qy   1261 GGAATCGACACCTGTACCTCTTGTAACAAGAAGCTGACCTCTGGAGCTGAGGCTAACCTG 1320
          || || || || |||||   |||||| || ||  | || ||||| ||||| |||||  |
Db   1261 GGTATTGATACATGTACTAGTTGTAATAAAAAATTAACTTCTGGCGCTGAAGCTAATTTA 1320

Qy   1321 CCTGAGTCTGCTAAGAAGAACATCCAGTGTGACTTCGCTAACTTCCTGTCTATCTCTCTG 1380
          ||||| |||||||| || || ||  | ||||| |||||||| ||  | || || ||  |
Db   1321 CCTGAATCTGCTAAAAAAAATATATAATGTGATTTCGCTAATTTTTTATCAATTTCCTTA 1380

Qy   1381 CTGCTGATCTCTTACTA 1397
          |  |||| ||||| ||
Db   1381 TTATTGATTTCTTATTA 1397
```

RESULT 7
US-09-497-967-74
; Sequence 74, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; CURRENT FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 74
; LENGTH: 138
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: oligonucleotide primers
US-09-497-967-74

Query Match 9.8%; Score 138; DB 18; Length 138;
Best Local Similarity 100.0%; Pred. No. 5.3e-28;
Matches 138; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy    313 GCTACCGACTACGCTGCTATCATCACCGAGTGTGTGAACTGTCGCATCAACTTCTACAAC 372
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1 GCTACCGACTACGCTGCTATCATCACCGAGTGTGTGAACTGTCGCATCAACTTCTACAAC 60

Qy    373 GAGAACGCTCCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGTCCTGTGAACCGC 432
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61 GAGAACGCTCCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGTCCTGTGAACCGC 120

Qy    433 GTGGGAGGAGCTCTGACC 450
          ||||||||||||||||||
Db    121 GTGGGAGGAGCTCTGACC 138
```

RESULT 8
US-09-497-967-75/c
; Sequence 75, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; CURRENT FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121

```
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 75
;   LENGTH: 123
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:
;   OTHER INFORMATION: oligonucleotide primers
US-09-497-967-75

  Query Match             8.8%;  Score 123;  DB 18;  Length 123;
  Best Local Similarity   100.0%;  Pred. No. 8.7e-24;
  Matches  123;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy    430 CGCGTGGGAGGAGCTCTGACCGCTGGAAACGCTGCTACCATCGTGGCTCAGTGTAACGTG 489
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    123 CGCGTGGGAGGAGCTCTGACCGCTGGAAACGCTGCTACCATCGTGGCTCAGTGTAACGTG 64

Qy    490 GCTTGTCCTACCGGAACCGCTCTGGACGACGGAGTGACCACCGACTACGTGCGCTCTTTC 549
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     63 GCTTGTCCTACCGGAACCGCTCTGGACGACGGAGTGACCACCGACTACGTGCGCTCTTTC 4

Qy    550 ACC 552
          |||
Db      3 ACC 1


RESULT 9
US-09-497-967-70
; Sequence 70, Application US/09497967
; GENERAL INFORMATION:
;  APPLICANT: Clark, Theodore G.
;  APPLICANT:  Dickerson, Jr., Harry W.
;  APPLICANT:  Lin, Tian-Long
;  TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
;  TITLE OF INVENTION:  ICHTHYOPHTHIRIUS
;  FILE REFERENCE: 235.00170101
;  CURRENT APPLICATION NUMBER: US/09/497,967
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/131,121
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 70
;   LENGTH: 117
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:
;   OTHER INFORMATION: oligonucleotide primers
US-09-497-967-70

  Query Match             7.5%;  Score 105;  DB 18;  Length 117;
  Best Local Similarity   100.0%;  Pred. No. 1e-18;
  Matches  105;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ATGAAGAACAACATCCTGGTGATCCTGATCATCTCTCTGTTCATCAACCAGATCAAGTCT 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     13 ATGAAGAACAACATCCTGGTGATCCTGATCATCTCTCTGTTCATCAACCAGATCAAGTCT 72

Qy     61 GCTAACTGTCCTGTGGGAACCGAGACCAACACCGCTGGACAGGTG 105
          |||||||||||||||||||||||||||||||||||||||||||||
Db     73 GCTAACTGTCCTGTGGGAACCGAGACCAACACCGCTGGACAGGTG 117


RESULT 10
US-09-497-967-71/c
; Sequence 71, Application US/09497967
; GENERAL INFORMATION:
;  APPLICANT: Clark, Theodore G.
;  APPLICANT:  Dickerson, Jr., Harry W.
;  APPLICANT:  Lin, Tian-Long
;  TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
;  TITLE OF INVENTION:  ICHTHYOPHTHIRIUS
;  FILE REFERENCE: 235.00170101
;  CURRENT APPLICATION NUMBER: US/09/497,967
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/131,121
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 71
;   LENGTH: 104
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:
;   OTHER INFORMATION: oligonucleotide primers
US-09-497-967-71

  Query Match             7.4%;  Score 104;  DB 18;  Length 104;
  Best Local Similarity   100.0%;  Pred. No. 1.9e-18;
  Matches  104;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy     84 GACCAACACCGCTGGACAGGTGGACGACCTGGGAACCCCTGCTAACTGTGTGAACTGTCA 143
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    104 GACCAACACCGCTGGACAGGTGGACGACCTGGGAACCCCTGCTAACTGTGTGAACTGTCA 45

Qy    144 GAAGAACTTCTACTACAACAACGCTGCTGCTTTCGTGCCTGGAG 187
          |||||||||||||||||||||||||||||||||||||||||||||
Db     44 GAAGAACTTCTACTACAACAACGCTGCTGCTTTCGTGCCTGGAG 1


RESULT 11
US-09-497-967-72
; Sequence 72, Application US/09497967
; GENERAL INFORMATION:
;  APPLICANT: Clark, Theodore G.
;  APPLICANT:  Dickerson, Jr., Harry W.
;  APPLICANT:  Lin, Tian-Long
;  TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
;  TITLE OF INVENTION:  ICHTHYOPHTHIRIUS
;  FILE REFERENCE: 235.00170101
;  CURRENT APPLICATION NUMBER: US/09/497,967
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/131,121
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 72
```

```
;   LENGTH: 100
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:
;   OTHER INFORMATION: oligonucleotide primers
US-09-497-967-72

  Query Match             7.1%;  Score 100;  DB 18;  Length 100;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-17;
  Matches  100;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy    165 CGCTGCTGCTTTCGTGCCTGGAGCTTCTACCTGTACCCCTTGTCCTCAGAAGAAGGACGC 224
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1 CGCTGCTGCTTTCGTGCCTGGAGCTTCTACCTGTACCCCTTGTCCTCAGAAGAAGGACGC 60

Qy    225 TGGAGCTCAGCCTAACCCTCCTGCTACCGCTAACCTGGTG 264
          ||||||||||||||||||||||||||||||||||||||||
Db     61 TGGAGCTCAGCCTAACCCTCCTGCTACCGCTAACCTGGTG 100


RESULT 12
US-09-497-967-79/c
; Sequence 79, Application US/09497967
; GENERAL INFORMATION:
;  APPLICANT: Clark, Theodore G.
;  APPLICANT:  Dickerson, Jr., Harry W.
;  APPLICANT:  Lin, Tian-Long
;  TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
;  TITLE OF INVENTION:  ICHTHYOPHTHIRIUS
;  FILE REFERENCE: 235.00170101
;  CURRENT APPLICATION NUMBER: US/09/497,967
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/131,121
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 79
;   LENGTH: 100
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:
;   OTHER INFORMATION: oligonucleotide primers
US-09-497-967-79

  Query Match             7.1%;  Score 100;  DB 18;  Length 100;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-17;
  Matches  100;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy    753 GAACAACTGGGTGGCTCAGAACACCGAGTGTACCAACTGTGCTCCTAACTTCTACAACAA 812
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    100 GAACAACTGGGTGGCTCAGAACACCGAGTGTACCAACTGTGCTCCTAACTTCTACAACAA 41

Qy    813 CAACGCTCCTAACTTCAACCCTGGAAACTCTACCTGTCTG 852
          ||||||||||||||||||||||||||||||||||||||||
Db     40 CAACGCTCCTAACTTCAACCCTGGAAACTCTACCTGTCTG 1


RESULT 13
US-09-497-967-76
; Sequence 76, Application US/09497967
; GENERAL INFORMATION:
;  APPLICANT: Clark, Theodore G.
;  APPLICANT:  Dickerson, Jr., Harry W.
;  APPLICANT:  Lin, Tian-Long
;  TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
;  TITLE OF INVENTION:  ICHTHYOPHTHIRIUS
;  FILE REFERENCE: 235.00170101
;  CURRENT APPLICATION NUMBER: US/09/497,967
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/131,121
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 76
;   LENGTH: 99
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:
;   OTHER INFORMATION: oligonucleotide primers
US-09-497-967-76

  Query Match             7.1%;  Score 99;  DB 18;  Length 99;
  Best Local Similarity   100.0%;  Pred. No. 4.9e-17;
  Matches   99;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy    532 GACTACGTGCGCTCTTTCACCGAGTGTGTGAAGTGTCGCCTGAACTTCTACTACAACGGA 591
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1 GACTACGTGCGCTCTTTCACCGAGTGTGTGAAGTGTCGCCTGAACTTCTACTACAACGGA 60

Qy    592 AACAACGGAAACACCCCTTTCAACCCTGGAAAGTCTCAG 630
          ||||||||||||||||||||||||||||||||||||||||
Db     61 AACAACGGAAACACCCCTTTCAACCCTGGAAAGTCTCAG 99


RESULT 14
US-09-497-967-73/c
; Sequence 73, Application US/09497967
; GENERAL INFORMATION:
;  APPLICANT: Clark, Theodore G.
;  APPLICANT:  Dickerson, Jr., Harry W.
;  APPLICANT:  Lin, Tian-Long
;  TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
;  TITLE OF INVENTION:  ICHTHYOPHTHIRIUS
;  FILE REFERENCE: 235.00170101
;  CURRENT APPLICATION NUMBER: US/09/497,967
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/131,121
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 73
;   LENGTH: 95
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:
;   OTHER INFORMATION: oligonucleotide primers
US-09-497-967-73

  Query Match             6.8%;  Score 95;  DB 18;  Length 95;
  Best Local Similarity   100.0%;  Pred. No. 6.5e-16;
  Matches   95;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy    242 CTCCTGCTACCGCTAACCTGGTGACCCAGTGTAACGTGAAGTGTCCTGCTGGAACCGCTA 301
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Db      95 CTCCTGCTACCGCTAACCTGGTGACCCAGTGTAACGTGAAGTGTCCTGCTGGAACCGCTA 36

Qy     302 TCGCTGGAGGAGCTACCGACTACGCTGCTATCATC 336
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Db      35 TCGCTGGAGGAGCTACCGACTACGCTGCTATCATC 1


RESULT 15
US-09-497-967-77/c
; Sequence 77, Application US/09497967
; GENERAL INFORMATION:
;  APPLICANT: Clark, Theodore G.
;  APPLICANT:  Dickerson, Jr., Harry W.
;  APPLICANT:  Lin, Tian-Long
;  TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
;  TITLE OF INVENTION:  ICHTHYOPHTHIRIUS
;  FILE REFERENCE: 235.00170101
;  CURRENT APPLICATION NUMBER: US/09/497,967
;  CURRENT FILING DATE:  2000-02-04
;  PRIOR APPLICATION NUMBER: 60/131,121
;  PRIOR FILING DATE: 1999-04-27
;  PRIOR APPLICATION NUMBER: 60/118,634
;  PRIOR FILING DATE: 1999-02-04
;  PRIOR APPLICATION NUMBER: 60/122,372
;  PRIOR FILING DATE: 1999-03-02
;  PRIOR APPLICATION NUMBER: 60/124,905
;  PRIOR FILING DATE: 1999-03-17
;  NUMBER OF SEQ ID NOS: 102
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 77
;   LENGTH: 95
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence:
;   OTHER INFORMATION: oligonucleotide primers
US-09-497-967-77

  Query Match             6.8%;  Score 95;  DB 18;  Length 95;
  Best Local Similarity   100.0%;  Pred. No. 6.5e-16;
  Matches   95;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy     607 CCTTTCAACCCTGGAAAGTCTCAGTGTACCCCTTGTCCTGCTATCAAGCCTGCTAACGTG 666
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      95 CCTTTCAACCCTGGAAAGTCTCAGTGTACCCCTTGTCCTGCTATCAAGCCTGCTAACGTG 36

Qy     667 GCTCAGGCTACCCTGGGAAACGACGCTACCATCAC 701
           |||||||||||||||||||||||||||||||||
Db      35 GCTCAGGCTACCCTGGGAAACGACGCTACCATCAC 1


Search completed: February 17, 2003, 01:35:57
Job time : 2271.72 secs
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